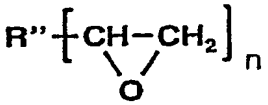
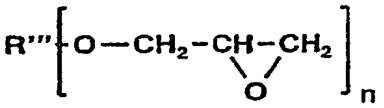
Patent claims

1. A method for the production of prepolymers by reacting polysulfides with polyepoxides, by reacting polyepoxides with polysulfides which have at least two mercapto groups in the presence of quaternary ammonium compounds as a catalyst.

2. The method as claimed in claim 1, characterized in that compounds of the formula

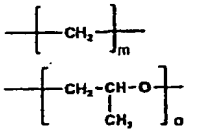


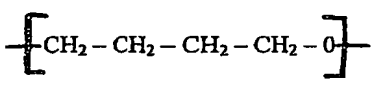
preferably

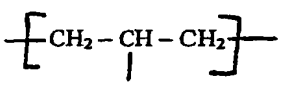


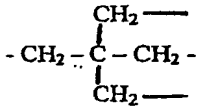
in which n = 2 - 4 and R'' and R''' are an organic radical having an aliphatic, aromatic or cycloaliphatic basic structure, are used as polyepoxides.

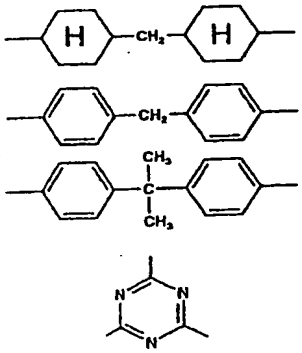
3. The method as claimed in claim 2, characterized in that the organic radical is selected from the group consisting of the following radicals:









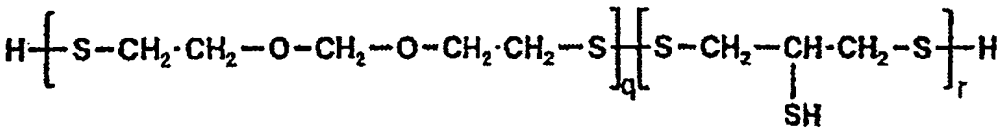


in which m = 2 - 10, o = 1 - 50, p = 1 - 50

4. The method as claimed in claim 1, characterized in that the epoxides used are unmodified epoxy resins and novolacs.

5. The method as claimed in at least one of claims 1 to 4, characterized in that mixtures of epoxides are used.

6. The method as claimed in at least one of claims 1 to 5, characterized in that polysulfides of the formula



are used, in which q = 4 - 30 and r = 0 - 3.

7. The method as claimed in any of claims 1 to 6, characterized in that the reaction is carried out in a molar ratio of 1 mol of polysulfide to 2 ± 0.2 mol of polyepoxide.

8. The method as claimed in claim 7, characterized in that the reaction is carried out in the stoichiometric ratio 1:2.

9. The method as claimed in any of claims 1 to 6, characterized in that the reaction is carried out in a molar ratio of 2 mol of polysulfide to 1 ± 0.1 mol of polyepoxide.

10. The method as claimed in claim 9, characterized in that the reaction is carried out in a stoichiometric ratio of 2:1.

11. The method as claimed in at least one of claims 1 to 7 and 9, characterized in that the starting component determining the functionality of the prepolymer is used in a stoichiometric excess.

12. The method as claimed in claim 11, characterized in that a 2- to 7-fold stoichiometric excess is used.

13. The method as claimed in one or more of claims 1 to 12, characterized in that polysulfide is initially introduced and polyepoxide is metered in.

14. The method as claimed in one or more of claims 1 to 12,

characterized in that polyepoxide is initially introduced and polysulfide is metered in.

15. The method as claimed in either of claims 13 and 14, characterized in that metering is effected into a vessel which already contains the catalyst used.

16. The method as claimed in either of claims 13 and 14, characterized in that the catalyst is concomitantly metered into the vessel during the reaction.

17. The method as claimed in at least one of claims 1 to 16, characterized in that the catalyst used is methyltrioctylammonium chloride.

18. The method as claimed in at least one of claims 1 to 17, characterized in that the polyepoxide used is bisphenol A diglycidyl ether or bisphenol F diglycidyl ether.

19. The method as claimed in claim 18, characterized in that mixtures of the two polyepoxides are used.

20. The method as claimed in at least one of claims 1 to 19, characterized in that the reaction is carried out in vacuo, preferably at a pressure of 10 - 100 mbar.

21. The method as claimed in at least one of claims 1 to 20, characterized in that the reaction is carried out with stirring.

22. The method as claimed in at least one of claims 1 to 21, characterized in that the reaction is carried out at temperatures of from 20 to 150°C.

23. The method as claimed in claim 22, characterized in that the reaction is carried out at a temperature of from 40 to 150°C, in particular 40 - 100°C.

24. The method as claimed in claim 23, characterized in that the reaction is carried out at temperatures of from 50 to 70°C.

25. A storage-stable prepolymer produced by a method as claimed in one or more of claims 1 to 24.